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09/632,868	08/04/2000	Lawrence W. Yonge III	04838-063001	2454

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EXAMINER	
VOLPER, THOMAS E	
ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 03/25/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/632,868	Applicant(s) YONGE, LAWRENCE W.	
	Examiner Thomas Volper	Art Unit 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-35 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-10,12,25 and 27-35 is/are rejected.

7)☒ Claim(s) 11,13-24 and 26 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 4,8,9.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 32 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 32 recites the limitation "the channel map" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 27-31, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomizawa et al. (US 6,202,082) in view of Pritty et al. (US 4,819,229).

Regarding claims 1 and 35, Tomizawa discloses preparing by a first station as a first frame intended for a second station to be sent to an intermediate station for forwarding to the second station as a second frame, the frame including a delimiter and the delimiter including

control information to be heard by other stations in the network (col. 12, lines 25-42) The FC of Figure 15 is a frame control field which includes delimiter and token, and is representative of the delimiter of the present invention. Tomizawa also discloses changing control information in the frame and sending the modified frame as the second frame (col. 11, lines 21-27). Tomizawa fails to expressly disclose changing control information in the delimiter that is used for controlling the timing of frame forwarding. Pritty discloses a token ring priority control system that allows an intermediate node to change the priority of a token, which affects the timing of when a node may transmit on a shared medium (col. 13, line 51 – col. 14, line 15). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include the priority control information of Pritty in the frame control field of Tomizawa and to modify the token priority information before sending to the second station. One of ordinary skill in the art would have been motivated to do this to avoid contention on the shared medium by reserving the right to transmit at a particular time based on priority.

Regarding claim 27, Tomizawa discloses that an intermediate node either stamps its ID into a received routing packet, or writes "no good" based on whether there is sufficient bandwidth on the path that includes that intermediate node (col. 13, lines 21-27). If the intermediate node is a bridge node, a "response packet" is sent back to the source node (col. 13, lines 27-35) representing connection information for a second channel of the present invention. When the destination node confirms a path that can be connected, it transmits a "routing complete" notification packet (col. 13, lines 53-55). This information represents the connection information for a first channel of the present invention.

Regarding claim 28, Tomizawa discloses requesting connection information on a connection channel from other stations on the shared medium (col. 13, lines 15-21).

Regarding claims 29 and 30, Tomizawa discloses setting up the optimum path between two nodes based on collected node information (col. 20, lines 54-55). Tomizawa also discloses confirming that spare capacity from a requesting node to a source node can be guaranteed (col. 10, lines 31-33). This meets the limitation of a reliable transmission path. Tomizawa fails to expressly disclose choosing the path via an intermediate node that gives the highest data rate or the most reliable path. However, as is well known in the art, high data rate and most reliable are characteristics associated with choosing an optimum path. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to choose a path with the highest data rate, or a path that is the most reliable. One of ordinary skill in the art would have been motivated to satisfy quality of service requirements specified by a transmitting station.

Regarding claim 31, Tomizawa discloses a path capacity area in which the capacity of the path is written when there is a connection request (col. 12, lines 36-37). This meets the limitation of a channel map specifying a maximum frame capacity.

Regarding claim 34, Tomizawa discloses determining that the first station is unable to communicate with the second station (col. 13, lines 55-57).

6. Claims 2-7, 9, 10, 12 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomizawa et al. (US 6,202,082) in view of Pritty et al. (US 4,819,229) as applied to claims 1, 27-31, 34 and 35 above, and further in view of Fischer et al. (US 5,001,472).

Regarding claims 2 and 3, the system provided by Tomizawa et al. in view of Pritty et al.

provides for an intermediate node area in the first frame (see Figure 15). However, the system fails to expressly disclose the field specifies an intermediate address for which to send the first frame. Fischer discloses a frame that includes destination identification characters (DID) that represent the address of the next active node to which the token should be passed (col. 9, lines 41-43). This DID represents a next node destination address, but not necessarily the final destination address, thus it represents an intermediate node address as in the present invention. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include this intermediate node address in addition to the D-ID and S-ID (see Figure 15) of the system provided by Tomizawa et al. in view of Pritty et al. One of ordinary skill in the art would have been motivated to do this to provide the direction along the medium for which to send a frame in order to get to its final destination along the proper path.

Regarding claims 4-7, Tomizawa discloses sending a "connection request packet" (col. 13, lines 15-21). By definition, this packet requires two responses, and receives two responses. A "response packet" is sent from a bridge node (col. 13, lines 27-35), which represents an intermediate node, and a "routing completion" packet is sent from the destination node (col. 13, lines 53-55).

Regarding claim 9, Tomizawa et al. in view of Pritty et al. discloses placing highest priority control information in the delimiter in order to secure the right the transmit data without contention (see paragraph regarding claims 1 and 35 above).

Regarding claim 10, Pritty discloses segments in a message that contain priority information (col. 16, lines 24-34). This meets the limitation of a segment control field for including actual priority information. At the time the invention was made, it would have been

obvious to a person of ordinary skill in the art to include this segment priority information in the system provided by Tomizawa et al. in view of Pritty et al. that has been described thus far. One of ordinary skill in the art would have been motivated to do this to allow a node to determine the priority of individual segments in a message and deal with the segments appropriately.

Regarding claim 12, Tomizawa discloses modifying a first frame and sending a second frame as a modified version of the first frame with the same fields (col. 13, lines 21-25).

Regarding claim 33, Tomizawa discloses routing via at least one intermediate station a message from a first station to a second station, rather that routing the message directly (see Figure 14). The throughput is zero if a message transmission is attempted directly from node (34) to node (35) due to a broken link. By routing this message via at least one intermediate station, the throughput is increased, since the message is sent.

7. Claims 8 and 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomizawa et al. (US 6,202,082) in view of Pritty et al. (US 4,819,229) and Fischer et al. (US 5,001,472) as applied to claims 2-7, 9, 10, 12 and 33 above, and further in view of Tappan (US 6295296).

Regarding claims 8 and 25, Tomizawa et al. in view of Pritty et al. discloses placing highest priority control information in the delimiter in order to secure the right the transmit data without contention (see paragraph regarding claims 1 and 35 above). The system provided by Tomizawa et al. in view of Pritty et al. and Fischer et al. fails to expressly disclose discarding the second frame if the node does not have the highest priority to send. Tappan discloses a frame that includes a time to live (TTL) field (col. 3, lines 31-47). If this value reaches zero the current node discards the packet and may alert the source that the packets time has expired. At the time

the invention was made, it would have been obvious to a person of ordinary skill in the art to include this TTL field in a frame carrying a message in the system of Tomizawa et al. in view of Pritty et al. and Fischer et al. One of ordinary skill in the art would have been motivated to do this to allow a node to discard a packet that would not be of any value to the destination when it arrived, if it had been carrying time sensitive information for instance. This would free the node from attempting to transmit an expired packet at each contention period, and instead have that node attempt to send an un-expired packet during the next contention period.

Allowable Subject Matter

8. Claims 11, 13-24 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Claim 32 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

10. Any inquiry concerning this communication, or earlier communications from the examiner should be directed to Thomas Volper whose telephone number is 703-305-8405 and fax number is 703-746-9467. The examiner can normally be reached between 8:30am and 6:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached at 703-308-6602. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Thomas E. Volper

TEV

March 19, 2004

HUY D. VU
SUPERVISORY PATENT EXAMINER
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